

journey) is being made by the Anglo-Egyptian authorities to erase the name of Fashoda from the map and to call it instead Kodok. But the earlier and more picturesque name seems likely to survive, and the place itself (according to the author) is distinctly going ahead in spite of its evil reputation for malaria. On p. 286 the author gives an interesting account of a tame lion belonging apparently to a British officer resident in Omdurman at one time. When a small cub he had been soundly thumped by his master's fist to reduce him to order. As he grew into a large beast he remained mortally afraid of a thump, though its actual meaning to him then was nothing. He was perfectly good-humoured and kindly, but too playful, and delighted in jumping out on people in order to startle them, or leaping on to them in order to bear them to the ground. He would also climb the telegraph-poles (for, despite current belief to the contrary, lions are able to climb, as the present writer can bear witness). On one such occasion, from the top of the pole on which he was resting his chin to get a good look out, he descried his master coming

frequently saw a mass of white, translucent jelly lying on the turf, as if it had been dropped there. These masses were about as large as a man's fist. It was very like a mass of frog's spawn without the eggs in it. I thought it might have been the gelatinous portion of the food disgorged by the great fish-eating birds, of which there were plenty about, as kingfishers eject pellets made up of the bones of the fish they eat, or that possibly there might be some pathological explanation connecting it with the sheep, large flocks of which grazed the short herbage. But the shepherds and owners of the sheep would have known if such an explanation were admissible. They called it "pwdre ser," the rot of the stars.

Years afterwards I was in Westmorland, on the Geological Survey, and again not unfrequently saw the "pwdre ser." But I now got an addition to my story. Isaac Hindson, of Kirkby Lonsdale, a man whose scientific knowledge and genial personality made him a welcome companion to those who had to carry on geological research in his district, told me that he had once seen a luminous body fall, and, on going up to the place, found only a mass of white jelly. He did not say that it was luminous. I have never seen it luminous, but that may be because when it was light enough to see the lump of jelly, it would probably be too light to detect luminosity in it.

Then, in my novel reading, I found that the same thing was known in Scotland, and the same origin assigned to it, for Walter Scott, in "The Talisman,"¹ puts these words in the mouth of the hermit:—"Seek a fallen star and thou shalt only light on some foul jelly, which in shooting through the horizon, has assumed for a moment an appearance of splendour." I think that I remember seeing it used elsewhere as an illustration of disappointed hopes, which were "as when a man seeing a meteor fall, runs up and finds but a mass of putrid jelly," but I have lost the reference to this passage.

Thus it appeared that in Wales, in the Lake District, and in Scotland, there existed a belief that something which fell from the sky as a luminous body lay on the ground as a lump of white jelly.

I asked Huxley what it could be, and he said that the only thing like it that he knew was a nostoc. I turned to Sachs² for the description of a nostoc, and found that it "consists, when mature, of a large number of moniliform threads interwoven among one another and imbedded in a glutinous jelly, and thus united into colonies of a specifically defined form. . . . The gelatinous envelope of the new filament is developed, and the originally microscopic substance attains or even exceeds the size of a walnut by continuous increase of the jelly and divisions of the cells."

All the nostocs, however, that I have had pointed out to me have been of a green or purplish or brown-green colour, whereas the "pwdre ser" was always white, translucent in the upper part, and transparent

¹ "Waverley Novels," Border edition, chapter xviii., p. 278.

² Sachs, "Text-book of Botany, Morphological and Physiological." Translated and annotated by Alfred W. Bennett and W. T. Thiselton-Dyer. (1875.)

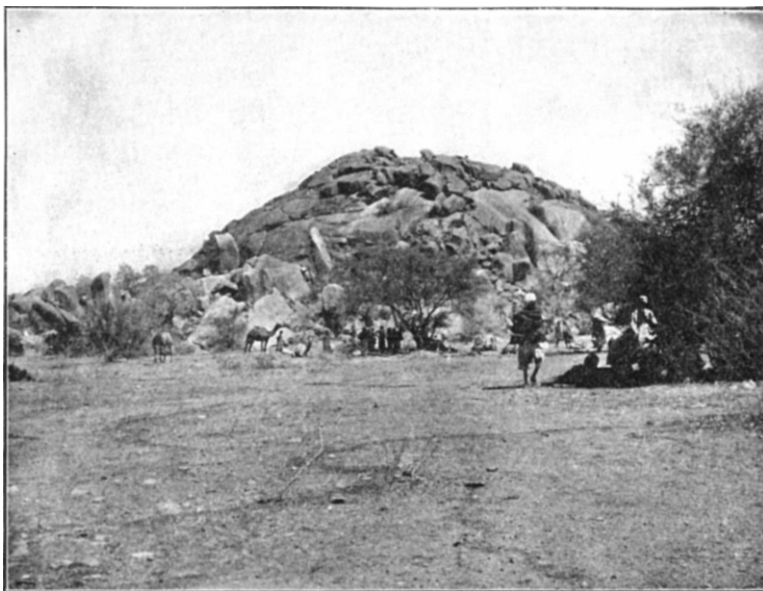


FIG. 2.—Gebel Kordi: a typical Hill 350 feet high. From "In the Torrid Sudan."

from a distance, and, fearful of punishment, slid down the pole on to the ground with a bump which sobered him for days.

This book is not an easy one to review, for its information is put together in a scattered and unpretentious form, but it is very readable, and gives one as a reward for its perusal a remarkably vivid picture of the general aspect and conditions of the Sudan between Khartum and the Bahr al Zeraf, the White Nile, the Blue Nile, and the river Dinder.

H. H. JOHNSTON.

PWDRE SER.

IN my boyhood I often lived on the coast of Pembrokeshire. Wandering about with my gun I was familiar with most natural objects which occurred there. One, however, which I often came across there, and have seen elsewhere since, greatly roused my curiosity, but I have not yet met with a satisfactory explanation of it.

On the short, close grass of the hilly ground, I

in the lower part, which appeared to occur among the roots of the grass, as if it grew there. Moreover, the mass was much larger than a walnut, in fact, would generally about fill a half-pint mug.

The only reference I can find from which it would appear that the writer was describing a nostoc is the passage in Dryden and Lee¹ (1678).

"The shooting stars end all in purple jellies." In the following note, appended to this passage, it is clear that the writer thought that the jelly-like matter found where shooting-stars had seemed to fall, was white.

Note.—"It is a common idea that falling stars, as they are called, are converted into a sort of jelly. Among the rest, I had often the opportunity to see the seeming shooting of the stars from place to place, and sometimes they appeared as if falling to the ground, where I once or twice found a white jelly-like matter among the grass, which I imagined to be distilled from them; and thence foolishly conjectured that the stars themselves must certainly consist of a like substance."

Poets and divines carry the record of this curious belief far back into the seventeenth century.

Suckling² (1541) says:—

"As he whose quicker eye doth trace
A false star shot to a mark't place
Do's run apace,
And, thinking it to catch,
A jelly up do snatch."

Jeremy Taylor³ (1649):—

"It is weaknesse of the organ that makes us hold our hand between the sun and us, and yet stand staring upon a meteor or an inflamed jelly."

Henry More⁴ (1656):—

"That the Starres eat . . . that those falling Starres, as some call them, which are found on the earth in the form of a trembling gelly, are their excrement."

Dryden⁵ (1679):—

"When I had taken up what I supposed a fallen star I found I had been cozened with a jelly."

William Somerville⁶ (1740):—

"Swift as the Shooting Star that gilds the night
With rapid transient Blaze, she runs, she flies;
Sudden she stops nor longer can endure
The painful course, but drooping sinks away,
And like that falling Meteor, there she lyes
A jelly cold on earth."

Several old writers, however, while agreeing as to the mode of occurrence of the "pwdre ser," and recognising the widespread belief that it was something which fell from the sky and was somehow connected with falling stars, have tried to find some more commonplace and probable explanation of the phenomenon, and most of them refer it to the stuff disgorged by birds that had fed on frogs or worms.

Merrett⁷ (1667), for instance, in his work on meteors and wandering lights, says:—

"Sequuntur Meteora, ignita, viz. Ignis fatuus, the Walking fire, or Jack of the Lantern, Castor and Pollux, Helena, Ignis lambens. Draco, Stella cadens: Est substantia quadam alba et glutinosa plurimis in locis conspicua quam nostrates 'Star-faln' nuncupant, creduntq;

¹ "Ædipus," ii. 1, a tragedy in 5 acts in verse, with notes, &c., by Sir Walter Scott, revised and corrected by George Saintsbury. Vol. vi., p. 159.

² "Poems Fawell to Love." Fragmenta Aurea; a collection of all the incomparable pieces written by Sir I. Suckling, p. 45. (London, 1546.)

³ "The Great Exemplar of Sanctity, &c." Preliminary Exhortation, par. 7, p. 5.

⁴ "Enthusiasmus Triumphatus," p. 45; D.N.B., vol. xxxviii., p. 422a.

⁵ "The Spanish Friar." Dedication, p. 404.

⁶ "Hobbinol, or the Rural Games": a Burlesque Poem in Blank Verse, 3rd ed., p. 70.

⁷ Merrett, "Christophorus, Pinax: Rerum naturalium Britannicarum, continens vegetabilia, Animalia, e. Fossilia in hac Insula reperta inchoatus," ed. 2der Lond., 1667, p. 219.

multi originem suam debere stellae cadenti hujusq; materiam esse. Sed Regiae Societati palam ostendi solummodo oriri ex intestinis ranarum a corvis in unum locum congestis, quod aliis etiam ejusdem societatis viri praestantissimi postea confirmarunt."

The Rev. John Morton,¹ of Emmanuel College (1712), is, however, the only one who, so far as I can ascertain, ever tried any experiments with the view of finding out what it really was. He set some of it on the fire, and when he had driven off all the watery part, there was left a film like isinglass, and something like the skins and vessels of animal bodies. He records many observations as to its time and mode of occurrence; for instance, he says that "in 1699-1700 there was no star-gelly to be found about Oxenden till a wet week in the end of February, when the shepherds brought me above thirty several lumps." This and other observations suggest that it is a growth dependent upon the weather, &c. On the other hand, he says that he saw a wounded gull disgorge a heap of half-digested earth-worms much resembling star-jelly, and that Sir William Craven saw a bittern do the same in similar circumstances.

The Hon. Robert Boyle,² 1744, explaining how clammy and viscous bodies, such as white of egg, are reduced to a thin and fluid substance, says:—

"And I remember, I have seen a good quantity of that jelly, that is sometimes found on the ground, and by the vulgar called a star-shoot, as if it remained upon the extinction of a falling star, which being brought to an eminent physician of my acquaintance, he lightly digested it in a well-stopt glass for a long time, and by that alone resolved it into a permanent liquor, which he extols as a specifick to be outwardly applied against Wens."

Pennant³ seems to have supposed that its origin was that suggested by Morton, for in his description of the winter mew he says:—"This kind (*i.e.* the Cuddy Moddy or Winter Mew) frequents, during winter, the moist meadows in the inland parts of England remote from the Sea. The gelatinous substance, known by the name of star shot, or star gelly, owes its origin to this bird or some of the kind, being nothing but the half digested remains of earth-worms, on which these birds feed and often discharge from their stomachs."

I have found it commonly near the sea, but have never seen any trace of earth-worms or other similar food in it.

Here, then, we have a well-known substance which may be of different origin in different cases, respecting the general appearance of which, however, almost all accounts agree. The variety of names under which it is known point to its common and widespread occurrence, *e.g.* pwdre ser, star-slough, star shoot, star shot, star-gelly or jelly, star-fall'n.

We have in every name, and in every notice in literature, a recognition of the universal belief that it has something to do with meteors, yet there does not appear to be any evidence that anybody ever saw any luminosity in the jelly. Nor has anybody seen it disgorged by birds, except in the case of those two wounded birds where some half-digested gelatinous mass was thrown up. Nor has anyone watched its growth like nostoc from the ground.

In 1908 I was with my wife and one of my boys on Ingleborough, where we found the "pwdre ser" lying on the short grass, close to the stream a little way above Gaping Ghyl Hole. For the first time I felt grateful to the inconsiderate tourist who left

¹ "The Natural History of Northamptonshire, with some Account of the Antiquities, &c." By John Morton, M.A., F.R.S., Emanuel College, Cambridge, Rector of Oxenden. (London, 1712, p. 352.)

² "The Works of the Hon. Robert Boyle," in 5 vols. Vol. i., p. 244, of Fluidity, Sect. xi. (London, Millar.)

³ "Zoology Folio," 1766, p. 142.

broken bottles about, for I was able to pack the jelly in the bottom of one, tie a cover on, and carry it down from the fell. I sent it, with the sod on which it appeared to have grown, to my colleague, Mr. E. A. Newell Arber, with a brief sketch of my story and the reason why I thought it of interest. Mr. Arber reported that it was no nostoc, and said that he had sent it over to Mr. Brookes, in the Botany School, who reported that it was a mass of bacteria.

That is the end of my story, but I confess I am not satisfied. The jelly seemed to me to grow out from among the roots of the grass, and the part still tangled in the grass was not only translucent but quite transparent.

What is it, and what is the cause of its having a meteoric origin assigned to it? Has anyone ever seen it luminous?

Should anyone come upon it I should be very grateful if they would send it, and the sod on which it is found, to the Botany School at Cambridge, with a label indicating what the parcel contains, so that it may be attended to before decay has perhaps obscured important features.

T. McKENNY HUGHES.

THE TOTAL SOLAR ECLIPSE OF MAY 9, 1910.

UP to the time of writing (May 28) no account has been received from Mr. F. K. McClean with regard to the erection and adjustments of the various

two specimens of the work which had to be undertaken. The first (Fig. 2) shows the avenue which had to be made from the camp to the instrument site. The figure standing up is Mr. Young, the bending figure Mr. Dowsett. In Fig. 3 is shown the method adopted for carrying the loaded packing-cases from the water's edge to the site; the figures from right to left are Messrs. McClean, Young, Brooks, Dowsett, and the last one, on the extreme left, unknown, probably one of the miners who was in the locality, and who assisted the members of the expedition.

The communication to which reference above has been made was dated April 17, and was dispatched from Port Davey by the steamer *Wainui*. The contents are as follows:—

"On April 5 Mr. Hughes, of the Union S.S. Co., supplied us with a time-table of the *Wainui*, and informed us that the steamer would call in when passing in each direction if weather permitted, but at the absolute discretion of Captain Livingstone.

"News arrived the following day that the 6-inch Cooke O.G. of 30 feet focus would arrive by the *Athenic* on April 14, and arrangements were made for its dispatch to Port Davey.

"A telegram was also received from Mr. J. Short, of Sydney Observatory, in answer to an invitation to set up his instrument alongside of ours, in which he said that he was awaiting Government sanction, and would be glad to join us.

Finally, on April 9, the *Wainui* arrived from Melbourne, and all our instruments, tents, timber, ironmongery, food, drink, clothing, and a whale-boat were put on board,



FIG. 1.—The Country about Hixson Point, the site of the Eclipse Camp.

instruments he took out with him for the solar eclipse. It will be remembered that the observing station he chose was near Port Davey, and he selected a small island, called Hixson Point, for the actual site of the camp. The accompanying illustration (Fig. 1) indicates the position of this island in relation to the neighbouring country, and is from a photograph taken towards the east from Morning Hill.

Mr. McClean has, however, sent an intermediate letter, which will, no doubt, be read with considerable interest, describing the first week's operations from the time of the arrival of his entire party by the *Wainui* on April 7, with their whole kit and instruments. This account shows vividly the strenuous life which the party had continually to undergo during the initial stages of their settlement, and in a letter Mr. McClean states that so far "this trip is a triumph of matter over mind, as the latter has not had a look in yet, and never would have if it were not for the muscles of the party."

The accompanying illustrations, from photographs taken by Mr. H. Winkelmann, will serve best to show

altogether about 140 cases and packages, and we left Hobart at 9 p.m.

"The following morning we entered Port Davey in a strong south-west wind and a heavy swell, but as soon as we passed the Breaksea Islands the sea became calm, and the landing was effected without trouble. One of the ship's boats took the instruments and cement to the foot of Hixson Point, where they were hauled up the low bluff on planks by block and tackle, and left in a pile covered with a large tarpaulin until they could be carried to the observatory site. Our whale-boat took the camp equipment up the cove to where a small stream ran through a clump of bush, and here we set up our tents after the steamer left. The landing was done between 9.30 a.m. and 2.0 p.m. with the help of some of the officers and crew of the *Wainui* and two miners who were hunting in the neighbourhood. The weather all the time was fine, but rain started in the evening after we had set up three tents, in which we spent the first night.

"The following day we completed the camp and cut a path some 100 yards long through the bush with the help of the two miners, who later continued it on through the 2-foot scrub to the observatory site. We then set up the instrument tent close to the site of the observatory, but